are performed using the Clustal method of alignment (Higgins and Sharp (1989) *CABIOS. 5*:151-153) with the default parameters (GAP PENALTY=10, GAP LENGTH PENALTY=10). Default parameters for pairwise alignments and calculation of percent identiy of protein sequences using the Clustal method are KTUPLE=1, GAP PENALTY=3, WINDOW=5 and DIAGONALS SAVED=5. For nucleic acids these parameters are GAP PENALTY=10, GAP LENGTH PENALTY=10, KTUPLE=2, GAP PENALTY=5, WINDOW=4 and DIAGONALS SAVED=4. A "substantial portion" of an amino acid or nucleotide sequence comprises enough of the amino acid sequence of a polypeptide or the nucleotide sequence of a gene to afford putative identification of that polypeptide or gene, either by manual evaluation of the sequence by one skilled in the art, or by computer-automated sequence comparison and identification using algorithms such as BLAST (Altschul, S. F., et al., (1993) *J. Mol. Biol. 215*:403-410) and Gapped Blast (Altschul, S. F. et al., (1997) *Nucleic Acids Res. 25*:3389-3402).

D1 cancel

Please amend the specification, the paragraph beginning at page 11, line 26, and continuing through page 12, line 2, as follows:

Northern-blot hybridization experiments indicated that SAMS gene transcripts are present in a variety of soybean tissues and that the abundance of SAMS gene transcripts does not differ greatly from tissue to tissue (Figure 9 and Example 3). Strong expression of the SAMS gene was also inferred by the high frequency of occurrences of cDNA sequences with homology to SAMS (ESTs) in a soybean cDNA sequence database created by sequencing random cDNAs from libraries prepared from many different soybean tissues. ESTs encoding SAMS can be easily identified by conducting BLAST (Basic Local Alignment Search Tool; Altschul, S. F., et al., (1993) J. Mol. Biol. 215:403-410) searches for similarity to sequences contained in the BLAST "nr" database, *e.g.,* SAMS from Oryza sativa (EMBL Accession No. Z26867) or SEQ ID NO:1 provided herein. SAMS homologs were among the most abundant classes of cDNAs found in the soybean libraries. This indicated that SAMS was a highly expressed gene in most soybean cell types. The data obtained from sequencing many SAMS ESTs also indicated that there were several SAMS isoforms encoded by the soybean genome.

D2

Please amend the specification, the paragraph beginning at page 16, line 27, and continuing through page 17, line 6, as follows:

ESTs encoding SAMS were identified by conducting BLAST (Basic Local Alignment Search Tool; Altschul, S. F., *et al.,* (1993) *J. Mol. Biol. 215*:403-410) searches for similarity to sequences contained in the BLAST "nr" database (comprising all non-redundant GenBank CDS translations, sequences derived from the 3-dimensional structure Brookhaven Protein Data Bank, the last major release of

D3

the SWISS-PROT protein sequence database, EMBL, and DDBJ databases). The cDNA sequences obtained in Example 1 were analyzed for similarity to all publicly available DNA sequences contained in the "nr" database using the BLASTN algorithm provided by the National Center for Biotechnology Information (NCBI). The DNA sequences were translated in all reading frames and compared for similarity to all publicly available protein sequences contained in the "nr" database using the BLASTX algorithm (Gish, W. and States, D. J. (1993) *Nature Genetics 3*:266-272 and Altschul, S. F., *et al.* (1997) *Nucleic Acids Res. 25*:3389-3402) provided by the NCBI. For convenience, the P-value (probability) of observing a match of a cDNA sequence to a sequence contained in the searched databases merely by chance as calculated by BLAST are reported herein as "pLog" values, which represent the negative of the logarithm of the reported P-value. Accordingly, the greater the pLog value, the greater the likelihood that the cDNA sequence and the BLAST "hit" represent homologous proteins.

03 cont'd

Please amend the specification, paragraph at page 19, lines 3-34, as follows:

The soybean full length SAMS cDNA (SEQ ID NO:1), obtained in Example 2, was used to generate a probe to isolate a SAMS promoter. The full length SAMS cDNA sequence consisted of 1518 bp, and it had a 73 bp 5'-untranslated region and a PstI site at position 296. Because the cDNA clone was harbored in a pBluescript™ SK vector having a PstI site upstream of the EcoRI cloning site, digestion of the clone with Pst1 generated a 315 bp fragment of DNA. The resulting restriction fragment contained 19 bp of vector and cloning linker adapter sequence in addition to the 296 bp of SAMS cDNA sequence. This PstI fragment was labeled with α-^{32}P-dCTP, as described in Example 3, and used as a probe to screen a soybean genomic DNA library that had been constructed in a EMBL3 SP6/T7 vector (ClonTech, Palo Alto, CA). The library was plated with LE392 (ClonTech) cells at 50,000 plaque forming units (pfu) per 150 mm NZCYM agar plate (GIBCO BRL). Plaques were transferred to Hybond nylon membranes, and the plaque replicas were then denatured and neutralized according to the manufacturer (Amersham Life Science, Arlington Heights, IL). The phage DNA was fixed on the membranes by UV-crosslinking (Stratagene). After prehybridization at 65° for 1 hour in 0.5 M $NaHPO_4$, pH 7.2, 1 mM EDTA, 1% crystalline BSA (Sigma), and 7% SDS, the SAMS 315 bp Pst1 fragment probe was denatured in boiling water bath for 5 minutes and added to the same hybridization solution, and was hybridized at 65° for 24 hours. The membranes were washed in 40 mM $NaHPO_4$, pH 7.2, 1 mM EDTA, 0.5% crystalline BSA, and 5% SDS for 10 minutes at room temperature, and then 3x 10 minutes at 65° in 40 mM $NaHPO_4$, pH 7.2, 1 mM EDTA, and 1% SDS. The membranes were exposed to Kodak X-ray film (Sigma) at -80°. Positive SAMS genomic DNA phage clones were suspended in

04

SM buffer, 50 mM Tris-Cl, pH 7.5, 100 mM NaCl, 0.2% $MgSO_4 \cdot 7H_2O$, and 0.1% gelatin, and purified by a secondary screening following the same procedure. Twenty three strongly hybridizing plaques were identified by the first screening from a total of $3x10^5$ pfu, and fifteen were later purified. DNAs were prepared from two of the purified phage clones (Ausubel et al., (1990) pp. 1.13.4-1.13.8), they were digested with BamHI, ClaI, PstI, and NcoI and prepared for a Southern blot. The blot was hybridized with the SAMS 315 bp PstI fragment probe prepared and used as above. A single positive fragment of clone 1 was identified from the ClaI digestion. Since the ClaI restriction site in the cDNA clone is 843 bp from the 5' end of the full length cDNA, the 2.5 kb ClaI fragment was expected to include about 1.7 kb of DNA upstream of the coding sequence, which was considered sufficient to contain the SAMS promoter.

Please amend the specification, paragraph at page 20, lines 21-33, as follows:

The cDNA sequence in SEQ ID NO:3 perfectly matches the genomic sequence in SEQ ID NO:2 from nucleotide 1 to 59 of the cDNA. There follows a region of 591 nucleotides in the genomic DNA that is absent from the cDNA. Then the region from nucleotide 60 to 249 of the cDNA perfectly matches the 190 bp region at the 3' end of the genomic DNA. This indicates the presence of a 591 nucleotide intron in the genomic DNA in the 5' transcribed, but untranslated, region of the SAMS gene. The presence of consensus 5' and 3' splice junctions in the genomic DNA at the exon-intron junctions supports this conclusion. Thus, the 53 bp at the 5' end of the cDNA used as the probe (SEQ ID NO:1) did not match the genomic sequence because the genomic sequence at that position in the alignment was from the intron. However, the 53 bp at the 5' end of the cDNA of SEQ ID NO:1 is very similar to the 60 nucleotides at the 5' end of the cDNA of SEQ ID NO:3, suggesting that the gene from which SEQ ID NO:1 was transcribed also contains an intron at the analogous position.

Please amend the specification, paragraph beginning at page 20, line 34, and continuing through page 21, line 9, as follows:

A 1305 bp SAMS genomic DNA fragment starting at nucleotide 856 and ending at nucleotide 2160 of SEQ ID NO:2: was amplified by PCR from the 2.5 kb ClaI clone. The promoter fragment was amplified from this fragment using primers sam-5 (SEQ ID NO:4) and sam-6 (SEQ ID NO:5) and Pfu DNA polymerase (Stratagene).

CATGCCATGGTTATACTTCAAAAACTGCAC (SEQ ID NO:4)

GCTCTAGATCAAACTCACATCCAA (SEQ ID NO:5)